APPENDIX C

SUPPORTING DATA FOR

ANALYSIS OF DOD SITES

Exhibit C-1: Location of DOD Sites Needing Cleanup

EPA Region	State	DOD Installations	DOD Sites	Army Sites	Navy Sites	AF Sites	DLA Sites	FUDS Sites
One	CT	7	36	3	30	2	0	1
	MA	51	158	56	14	47	0	41
	ME	25	69	0	22	22	0	25
	NH	6	18	0	0	14	0	4
	RI	15	50	3	31	0	0	16
	VT	1	1	0	0	0	0	1
	Subtotal	105	332	62	97	85	0	88
Two	NJ	34	117	44	35	8	0	30
	NY	97	269	76	8	78	0	107
	PR	13	40	0	27	1	0	12
	VI	0	0	0	0	0	0	0
	Subtotal	144	426	120	70	87	0	149
Three	DC	9	27	0	18	6	0	3
	DE	8	30	0	0	19	0	11
	MD	33	434	270	127	20	1	16
	PA	44	183	75	38	7	41	22
	VA	35	306	77	185	22	9	13
	WV	7	31	1	12	6	0	12
	Subtotal	136	1,011	423	380	80	51	77
Four	AL	17	205	166	0	28	0	11
	FL	75	390	0	211	112	0	67
	GA	23	221	149	26	36	0	10
	KY	7	66	62	2	1	0	1
	MS	26	56	0	14	19	0	23
	NC	18	175	24	121	17	0	13
	SC	21	247	29	152	55	0	11
	TN	13	175	37	57	13	65	3
	Subtotal	200	1,535	467	583	281	65	139
Five	IL	36	196	116	34	19	0	27
	IN	10	89	42	32	10	0	5
	MI	36	118	35	0	56	0	27
	MN	10	29	15	5	5	0	4
	OH	27	107	1	0	69	12	25
	WI	15	36	10	0	16	0	10
	Subtotal	134	575	219	71	175	12	98

Exhibit C-1: Location of DOD Sites Needing Cleanup (continued)

EPA Region	State	DOD Installations	DOD Sites	Army Sites	Navy Sites	AF Sites	DLA Sites	FUDS Sites
Six	AR	8	27	8	0	14	0	5
	LA	10	40	16	12	8	0	4
	NM	57	104	27	0	17	0	60
	OK	25	75	19	0	35	0	21
	TX	81	344	108	83	82	0	71
	Subtotal	181	590	178	95	156	0	161
Seven	IA	8	49	39	0	4	0	6
	KS	53	176	105	0	9	0	62
	MO	21	72	44	0	8	0	20
	NE	29	100	64	2	6	0	28
	Subtotal	111	397	252	2	27	0	116
Eight	CO	14	285	216	0	62	0	7
	MT	10	20	0	0	12	0	8
	ND	4	10	5	0	4	0	1
	SD	16	33	0	0	19	0	14
	UT	11	277	230	0	37	0	10
	WY	5	16	0	0	12	0	4
	Subtotal	60	641	451	0	146	0	44
Nine	AZ	37	172	99	10	34	0	29
	CA	220	1,851	103	916	612	64	156
	HI	50	133	15	46	43	0	29
	NV	20	56	29	2	8	0	17
	PI[a]	10[a]	19[a]	0	0	9	0	10
	GU	9	90	0	51	37	0	2
	SA	0	0	0	0	0	0	0
	Subtotal	346	2,321	246	1,025	743	64	243
Ten	AK	95	416	48	89	214	0	65
	ID	4	4	0	1	0	0	3
	OR	17	32	2	0	13	0	17
	WA	28	56	10	24	13	0	9
	Subtotal	144	508	60	114	240	0	94
Nation-Wide	TOTAL	1,561	8,336	2,478	2,437	2,020	192	1,209

Notes: PI = Pacific Islands: Johnston Atoll, Mariana Island, Midway, Palau, and Wake Island.

Source: DOD, Office of the Deputy Under Secretary (Environmental Security), Restoration Management Information System, November, 1995. Data as of September 1995.

Exhibit C-2: Definitions of DOD Site Types

Site Type	Site Description	Primary Contaminants
Underground Storage Tank	Underground storage tank sites result from the release of substances from underground storage tanks and any associated piping.	• POLs • POL sludges • Solvents • Metals
Spill Area	Spill areas are small areas where spills from drums, tanks, and other waste units have taken place.	• POLs • PCBs • Solvents • POL sludge • Metals
Landfill	Landfill sites are typically areas formerly used to dispose of both domestic and industrial hazardous waste.	• POLs • Solvents • Paint • Pesticides • Metals • Ord. compounds
Unexploded Munitions/Ordnance Area	Unexploded munitions and ordnance areas are areas that have been used for munitions and ordnance training.	• UXO • Metals • Explosive chemicals • Ord. compounds
Surface Disposal Area	Surface disposal area sites consist of small areas formerly used for disposal of solid wastes with little or no free liquids. Typical materials include rags, filters, paint cans, small capacitors, and batteries.	• POLs • Solvents • Paints • Pesticides • Metals • Acids • PCBs
Disposal Pit/Dry Well	Disposal pit/dry well sites consist of small unlined excavations and structures that were used over a period of time to dispose of small quantities of liquid wastes.	• POLs (for example, motor oil) • Acids (for example, battery acid) • Ordnance compounds • Explosive chemicals • Metals • Solvents
Storage Area	Storage areas are areas where spills and leaks occurred from stored containers or equipment.	• POLs • Solvents • POL sludge • Metals • Acid • PCBs
Contaminated Groundwater	Contaminated groundwater results from various types of releases of known or unknown origin, such as migration of leachate from disposal areas and migration of substances from contaminated surface and subsurface soils.	• Metals • Chlorinated solvents • Explosive chemicals • Non-chlorinated solvents • POLs

Exhibit C-2: Definitions of DOD Site Types

Site Type	Site Description	Primary Contaminants
Fire/Crash Training Area	Fire and crash rescue training areas consist of trenches and/or pits where flammable materials were ignited periodically for demonstrations and training exercises.	• POLs • POL sludges • Solvents • Metals
Building Demolition/ Debris Removal	Building demolition and debris removal sites consist of buildings and/or debris that are unsafe or must be removed.	• Asbestos • Lead paint • Construction debris
Surface Impoundment/ Lagoon	Surface impoundments and lagoons consist of unlined depressions, excavations, or diked areas which were used to accumulate liquid waste, waste containing free liquid, or industrial wastewaters.	• POLs • Metals • Solvents • Ord. compounds • Explosive chemicals • Industrial wastewater
Aboveground Storage Tanks	Aboveground storage tank sites result from release of substances to surrounding areas from above ground tanks, containers, and any associated piping.	• POLs (for example, heating oil, jet fuel, gasoline, and POL sludges)
Contaminated Fill	Contaminated fill areas consist of contaminated material resulting from excavations for construction, tanks, and other purposes.	• POLs • Explosive chem. • Metals • Paint waste • Ordnance compounds
Contaminated Building	Contaminated building sites result from releases within or on the outside of a structure of a substance that has been contained within the building.	• POL • Asbestos • Plating waste • Propellants • Metals • Pesticides • POL sludge • Solvents • Polychlorinated biphenyls (PCBs) • Acids
Burn Area	Burn area sites consist of pits or surface areas that were used for open-air incineration of waste.	• POLs (*e.g.*, spent motor oil, jet fuel) • Explosives • Propellants • Ordnance • Solvents (*e.g.*, spent paint thinners and degreasing agents)
Contaminated Sediments	Contaminated sediments include sediments of bodies of water that have been contaminated by surface runoff, subsurface migration, or direct discharge of contaminants.	• POLs • Metals • PCBs • Solvents • Pesticides • Explosive chem.

Exhibit C-2: Definitions of DOD Site Types (continued)

Site Type	Site Description	Primary Contaminants
Explosive/Ordnance Disposal Area	Explosive ordnance disposal areas consist of open-air areas that were used to detonate, demilitarize, bury, or dispose of explosives.	• Unexploded ordnance (UXO) • Metals • Ordnance compounds • Explosive chemicals
Waste Line	Waste lines are underground piping used to carry industrial wastes from shop facilities to a wastewater treatment plant.	• Solvents • Metals • Plating sludges • Pesticides • Explosive chemicals
Waste Treatment Plant	Wastewater treatment plant sites result from releases of substances at plants that were used to treat and dispose of domestic and/or industrial wastewater.	• POLs • Industrial wastewater • Solvents • Plating sludges • Explosive chemicals
Sewage Treatment Plant	Sewage treatment plants typically consist of a complex of tanks, piping, and sludge management areas used to treat sanitary sewage generated at an installation. The unit may use chemical or biological treatment methods. Lagoons associated with the biological treatment of sewage currently may be considered to be separate units.	• Metals • Industrial wastewater • Solvents • POLs
Petroleum, Oil, Lubricant (POL) Distribution Line	Petroleum, oil, lubricant distribution lines are used to transport POL products from storage to dispensing facilities.	• POLs (for example, heating oil, gasoline, Jet A, diesel, and other fuels) • POL sludge
Underground Storage Tank Farm	Underground storage tank farm sites result from the release of substances from multiple, typically large, underground storage tanks and associated piping which make up a tank farm complex.	• POLs • Solvents • POL sludges • Metals
Firing Range	Firing ranges consist of large areas of land used for practice firing of large artillery or mortars, or as a practice bombing range for aircraft. These areas are typically contaminated with unexploded ordnance, which may be found both on and below the ground surface.	• Metals • UXO • Ord. compounds • Explosives • Radionuclides
Soil Contaminated After Tank Removal	This unit consists of soil that has been removed during a tank removal operation and staged prior to treatment.	• POLs • POL sludge

Exhibit C-2: Definitions of DOD Site Types

Site Type	Site Description	Primary Contaminants
Storm Drain	Storm drains typically consist of a natural or man-made drain used as a runoff control structure for rainfall. The unit also may be used from runoff from other sources such as process operations. Man-made units may be concrete lined.	• POLs • Metals • POL sludge • Pesticides • Industrial wastewater • Solvents
Oil/Water Separator	Oil/water separators are typically small units that skim oil from storm water runoff. The oil/water separator consists of the unit, and any associated piping.	• POLs • Solvents • Industrial wastewater • PCBs
Maintenance Yard	Maintenance yards consist of paved or unpaved areas where vehicles and other maintenance equipment is stored and often serviced. Typically, maintenance supplies are stored at these units.	• POLs • Metals • Solvents
Low-level Radioactive Waste Area	Low-level radioactive waste areas consist of areas used to store or dispose of low-level radioactive materials of various types (for example, radium paint, and radioactive instruments and propellants).	• Low-level radioactive waste
Washrack	Washrack sites typically consist of a building designed for washing vehicles such as tanks, aircraft, and other military vehicles. This unit also may consist of a paved area where washing of vehicles occurs.	• POLs
Drainage Ditch	Drainage units typically consist of a natural or a man-made ditch used as a runoff control structure for rainfall. The unit also may be used for runoff from other sources such as process operations. Man-made units may be concrete lined.	• POLs • Explosive chemicals • Solvents • PCBs • Metals
Small Arms Range	Small arms ranges are typically located outdoors and used for target practice of small arms, usually 50 caliber or less. The unit may include a soil or sandbag berm, or hill located behind the targets to prevent bullets from travelling outside the range area.	• Metals • Ordnance compounds
Incinerator	Incinerators typically consist of a furnace and stack unit used for a variety of disposal activities including the incineration of medical waste, or an installation's dunnage. These units vary in size and may either be freestanding or part of other operations such as hospitals.	• Ash • Metals • Ordnance compounds

Exhibit C-2: Definitions of DOD Site Types (continued)

Site Type	Site Description	Primary Contaminants
Contaminated Soil Piles	This unit consists of soil that has been staged after an excavation activity.	• POLs • Sludge • Metals • Solvents • PCBs • Ordnance compounds
Mixed Waste Area	Mixed waste areas consist of areas used to store or dispose of hazardous wastes that have been mixed with or contaminated by radioisotopes.	• Solvents • Mixed waste
Pistol Range	Pistol ranges may be located indoors or outdoors and are used for target practice. Outdoor units include a soil or sandbag berm located behind the targets to prevent bullets from travelling outside the range area.	• Metals
Chemical Disposal	Chemical disposal units are areas that have been used for the disposal of chemicals, typically of an unknown type. The unit may be a burial area where bottles or packages of chemicals were placed or an area where liquids were disposed of on the soil.	• POLs • Metals • Solvents • Explosive chemicals
Pesticide Shop	Pesticide shops typically are used to store and prepare large volumes of pesticides and solvents for maintenance activities. The units may be located in a freestanding building or attached to another building. Areas near the unit may have been used for the disposal of off-specification pesticides.	• Pesticides • Metals • POLs
Industrial Discharge	Industrial discharge units consist of a pipe system used to discharge industrial effluent to the environment. The unit may discharge to a natural or man-made water body, dry creek bed or some other natural feature.	• Metals • Industrial wastewater
Surface Runoff	Surface runoff is an area with runoff from rain which may occur anywhere within a facility, particularly adjacent to industrial areas and airfield aprons.	• POLs • Metals • Solvents • Explosive chemicals
Leach Field	Leach fields typically consist of a subsurface area generally associated with septic tanks. The unit serves the purpose of biologically treating sanitary sewage, however, in cases where these units were used at industrial facilities, there also is contamination from non-biodegradable industrial contaminants.	• Metals • Solvents

Exhibit C-2: Definitions of DOD Site Types (continued)

Site Type	Site Description	Primary Contaminants
Plating Shop	Plating shops typically consist of a building or room within a building used for coating metal parts. The unit contains several tanks of solvents which are used in the plating process.	• Metals • Solvents • Acids • Industrial wastewater
Sewage Effluent Settling Pond	Sewage effluent settling ponds consist of a lagoon used for the settling of solids and/or biological treatment of sewage. The units also may be used as infiltration galleries.	• Metals • Ordnance compounds • Solvents
Dip Tank	Dip tanks are typically metal or concrete units located in coating shops that range in size from 50 to more than 500 gallons. The tanks are used to clean parts prior to treatment, or to coat parts with various materials including metals and plastics.	• POLs • Chlorinated solvents • Metals • Acids
Optical Shop	Optical shops typically consist of laboratory units located within a building. Activities include grinding lenses used in eye glasses or other optical instruments.	• Solvents

Notes: POL = Petroleum, oil, and lubricants; PCB = Polychlorinated Biphenyls; Ord. = Ordnance

Source: DOD, Office of the Deputy Under Secretary of Defense (Environmental Security), Defense Environmental Restoration Program Annual Report to Congress, for Fiscal Year 1995, Spring 1996.

Exhibit C-3: DOD Sites Needing Cleanup by Site Type

Site Type	Army	Navy	AF	DLA	FUDS	Total
Underground Storage Tanks	241	408	352	11	187	1,199
Spill Area	199	190	619	11	10	1,029
Landfill	353	255	293	5	34	940
Unexploded Munitions/Ordnance Area	53	28	17	0	398	496
Surface Disposal Area	161	356	155	3	25	700
Disposal Pit/Dry Well	185	76	201	39	34	535
Storage Area	201	298	25	32	13	569
Contaminated Groundwater	88	42	8	5	68	211
Fire/Crash Training Area	45	83	96	3	3	230
Building Demolition/Debris Removal	7	8	0	0	103	118
Surface Impoundment/Lagoon	138	63	5	9	8	223
Aboveground Storage Tanks	47	67	17	4	25	160
Contaminated Fill	27	12	5	10	63	117
Contaminated Building	114	35	1	14	7	171
Burn Area	102	40	4	7	4	157
Contaminated Sediments	53	66	10	0	15	144
Explosive/Ordnance Disposal Area	65	28	0	0	24	117
Waste Line	30	49	16	2	1	98
Waste Treatment Plant	41	26	13	0	1	81
Sewage Treatment Plant	13	0	64	1	3	81
Petroleum, Oil, Lubricant Distribution Line	12	41	18	2	2	75
Underground Storage Tank Farm	22	52	1	0	2	77
Firing Range	16	5	0	0	28	49
Soil Contaminated After Tank Removal	19	5	0	15	25	64
Storm Drain	6	7	21	3	0	37
Oil/Water Separator	28	28	6	1	0	63
Maintenance Yard	20	38	0	1	0	59
Low-level Radioactive Waste Area	4	3	12	0	2	21
Washrack	19	4	0	0	0	23
Drainage Ditch	21	15	0	2	0	38
Small Arms Range	7	3	0	0	8	18
Incinerator	21	5	0	0	0	26
Contaminated Soil Pipes	12	7	0	1	2	22

Exhibit C-3: DOD Site Types Needing Cleanup (continued)

Site Type	Army	Navy	AF	DLA	FUDS	Total
Mixed Waste Area	1	15	0	0	1	17
Pistol Range	5	7	0	2	0	14
Chemical Disposal	24	2	0	0	5	31
Pesticide Shop	8	9	0	4	0	21
Industrial Discharge	33	7	0	0	0	40
Surface Runoff	6	7	0	0	0	13
Leach Field	11	2	0	0	0	13
Plating Shop	0	9	0	0	0	9
Sewage Effluent Settling Pond	4	2	0	0	0	6
Dip Tank	1	4	0	1	0	6
Optical Shop	1	1	1	0	0	3
Other	14	29	60	4	108	215
Total	2,478	2,437	2,020	192	1,209	8,336

Source: DOD, Office of the Deputy Under Secretary of Defense (Environmental Security), Restoration Management Information System, 1996. Data as of September 1995.

Exhibit C-4: Frequency of Matrices by DOD Site Type

Site Type	No. of Sites with Data	Ground-water	Soil	Surface water	Sediment
Underground Storage Tanks	444	334	259	16	4
Spill Area	539	384	354	101	28
Landfill	491	386	305	172	38
Unexploded Munitions/Ordnance Area	14	6	11	4	1
Surface Disposal Area	347	228	251	85	17
Disposal Pit/Dry Well	334	276	253	63	27
Storage Area	181	92	152	25	10
Contaminated Groundwater	86	83	28	11	6
Fire/Crash Training Area	157	126	121	27	8
Building Demolition/Debris Removal	6	0	6	0	0
Surface Impoundment/Lagoon	93	60	56	32	15
Aboveground Storage Tanks	40	27	30	4	1
Contaminated Fill	37	22	31	8	2
Contaminated Building	37	14	32	3	8
Burn Area	78	50	53	13	9
Contaminated Sediments	49	23	33	17	9
Explosive/Ordnance Disposal Area	48	33	32	7	1
Waste Line	41	24	25	5	2
Waste Treatment Plant	25	15	15	8	2
Sewage Treatment Plant	0	0	0	0	0
Petroleum, Oil, Lubricant Distribution Line	36	29	21	2	0
Underground Storage Tank Farm	38	33	19	2	0
Other	8	7	8	0	0
Firing Range	2	2	1	1	0
Soil Contaminated After Tank Removal	10	6	7	1	0
Storm Drain	3	3	1	0	0
Oil/Water Separator	10	5	8	1	1
Maintenance Yard	0	0	0	0	0
Low-level Radioactive Waste Area	12	3	10	0	0
Washrack	9	1	8	0	0
Drainage Ditch	6	5	6	4	0
Small Arms Range	2	0	2	0	0
Incinerator	1	0	1	0	0
Contaminated Soil Piles	5	4	4	0	0

Exhibit C-4: Frequency of Matrices by DOD Site Type (continued)

Site Type	No. of Sites with Data	Ground-water	Soil	Surface water	Sediment
Mixed Waste Area	7	3	6	0	0
Pistol Range	4	2	4	0	0
Chemical Disposal	0	0	0	0	0
Pesticide Shop	3	1	3	0	0
Industrial Discharge	4	2	3	0	0
Surface Runoff	2	0	2	0	0
Leach Field	1	1	0	1	0
Plating Shop	1	0	1	0	0
Sewage Effluent Settling Pond	0	0	0	0	0
Dip Tank	1	0	1	0	0
Optical Shop	0	0	0	0	0
Other	8	7	8	0	0
Total	3,212	2,290	2,163	613	189

Note: The total count for a site type may exceed the number of sites with data for the site type, because a site may have more than one contaminated matrix.

Source: DOD, Office of the Deputy Under Secretary of Defense (Environmental Security), Restoration Management Information System, November 1995. Data as of September 1994.

Exhibit C-5: Frequency of Major Contaminant Groups by Matrix and DOD Component

DOD Component Contaminant Group	Ground-water	Soil	Surface water	Sediment	Total (All Media)	
Army						
VOCs	289	59	24	5	326	(41%)
SVOCs	90	97	23	24	193	(24%)
Metals	231	343	103	69	527	(66%)
Other	209	177	42	25	341	(43%)
Fuels	25	23	0	0	40	(5%)
Explosives	114	125	49	2	185	(23%)
VOCs & SVOCs	11	8	7	2	13	(2%)
VOCs & Metals	18	12	6	2	24	(3%)
SVOCs & Metals	8	6	5	4	10	(1%)
VOCs, SVOCs, & Metals	6	5	4	2	7	(1%)
No. of Sites with Data	534	485	137	87	794	
Navy						
VOCs	515	310	75	4	637	(70%)
SVOCs	317	428	61	14	573	(63%)
Metals	470	492	149	23	692	(76%)
Other	188	359	67	15	452	(49%)
Fuels	220	113	10	1	288	(31%)
Explosives	41	38	6	0	56	(6%)
VOCs & SVOCs	91	107	16	6	122	(13%)
VOCs & Metals	110	107	18	6	131	(14%)
SVOCs & Metals	97	126	21	8	144	(16%)
VOCs, SVOCs, & Metals	85	83	16	8	97	(11%)
No. of Sites with Data	648	659	166	24	916	
Air Force						
VOCs	815	512	125	11	1,012	(76%)
SVOCs	288	369	111	30	575	(43%)
Metals	597	593	198	48	909	(68%)
Other	211	346	69	18	482	(36%)
Fuels	184	245	21	1	362	(27%)
Explosives	6	6	0	0	12	(1%)
VOCs & SVOCs	70	82	22	9	93	(7%)
VOCs & Metals	87	96	27	8	107	(8%)
SVOCs & Metals	55	74	22	9	77	(6%)
VOCs, SVOCs, & Metals	53	67	21	8	69	(5%)
No. of Sites with Data	1,003	901	292	63	1,331	

Exhibit C-5: Frequency of Major Contaminant Groups by Matrix and DOD Component (continued)

DOD Component Contaminant Group	Ground-water	Soil	Surface water	Sediment	Total (All Media)	
FUDS						
VOCs	47	40	6	2	70	(74%)
SVOCs	12	25	1	3	34	(36%)
Metals	31	45	14	12	59	(63%)
Other	13	21	4	6	28	(30%)
Fuel	9	8	0	1	14	(15%)
Explosives	7	5	0	1	11	(12%)
VOCs & SVOCs	2	1	2	1	3	(3%)
VOCs & Metals	1	1	1	0	2	(2%)
SVOCs & Metals	1	1	1	0	2	(2%)
VOCs, SVOCs, & Metals	1	1	1	0	2	(2%)
No. of Sites with Data	61	73	18	14	94	
DLA						
VOCs	35	16	0	1	48	(62%)
SVOCs	2	15	0	0	17	(22%)
Metals	21	19	0	0	37	(48%)
Other	10	9	0	0	19	(25%)
Fuels	4	4	0	0	8	(10%)
Explosives	0	0	0	0	0	(0%)
VOCs & SVOCs	NA	NA	NA	NA	NA	NA
VOCs & Metals	NA	NA	NA	NA	NA	NA
SVOCs & Metals	NA	NA	NA	NA	NA	NA
VOCs, SVOCs, & Metals	NA	NA	NA	NA	NA	NA
No. of Sites with Data	44	45	0	1	77	
Total DOD						
VOCs	1,701	937	230	23	2,093	(65%)
SVOCs	709	934	196	71	1,392	(43%)
Metals	1,350	1,492	464	152	2,224	(69%)
Other	631	912	182	64	1,322	(41%)
Fuels	442	393	31	3	712	(22%)
Explosives	168	174	55	3	264	(8%)
VOCs & SVOCs	174	198	47	18	231	(7%)
VOCs & Metals	216	216	52	16	264	(8%)
SVOCs & Metals	161	207	49	21	233	(7%)
VOCs, SVOCs, & Metals	145	156	42	18	175	(5%)
No. of Sites with Data	**2,290**	**2,163**	**613**	**189**	**3,212**	

Notes:
- FUDS = Formerly used defense sites; DLA = Defense Logistics Agency; NA = Not available; VOC = Volatile organic compound; SVOC = Semivolatile organic compound.
- The total count for a matrix or contaminant group may exceed the number of sites with data, because a site may have more than one contaminant group or contaminated matrix.

Source: DOD, Office of the Deputy Under Secretary (Environmental Security), Restoration Management Information System, November, 1995. Data as of September 1994.

Exhibit C-6: Frequency of Major Contaminant Groups by DOD Site Type

Site Type	Total No. of Sites[a]	No. of Sites with Data	VOCs	Metals	SVOCs	Other	Fuels	Explo-sives
Underground Storage Tanks	1361	444	355	222	139	93	201	0
Spill Area	1234	539	376	318	255	177	142	26
Landfill	914	491	313	412	240	264	63	23
Unexploded Munitions/ Ordnance Area	784	14	4	12	5	9	0	5
Surface Disposal Area	748	347	221	260	182	171	45	24
Disposal Pit/Dry Well	612	334	194	273	119	143	56	86
Storage Area	608	181	94	131	112	96	28	4
Contaminated Groundwater	357	86	73	39	28	43	10	4
Fire/Crash Training Area	271	157	125	125	89	70	59	3
Building Demolition/Debris Removal	225	6	1	4	5	2	0	0
Surface Impoundment/ Lagoon	211	93	47	70	37	52	6	22
Aboveground Storage Tanks	202	40	30	24	20	12	13	0
Contaminated Fill	199	37	27	26	9	15	5	6
Contaminated Building	174	37	9	27	14	15	1	1
Burn Area	160	78	31	64	16	36	5	20
Contaminated Sediments	136	49	25	37	22	20	6	5
Explosive/Ordnance Disposal Area	130	48	15	38	17	26	1	18
Waste Line	92	41	27	29	15	22	10	3
Waste Treatment Plant	91	25	12	18	10	11	5	4
Sewage Treatment Plant	83	0	0	0	0	0	0	0
POL Distribution Line	82	36	32	17	12	5	22	0
Underground Storage Tank Farm	79	38	36	17	18	4	23	0
Firing Range	69	2	0	1	0	1	0	1
Soil Contaminated After Tank Removal	60	10	8	3	2	2	3	0

Exhibit C-6: Frequency of Major Contaminant Groups by DOD Site Type (continued)

Site Type	Total No. of Sites[a]	No. of Sites with Data	VOCs	Metals	SVOCs	Other	Fuels	Explo-sives
Storm Drain	57	3	3	1	2	1	0	0
Oil/Water Separator	52	10	7	7	5	5	5	1
Maintenance Yard	49	0	0	0	0	0	0	0
Low-level Radioactive Waste Area	33	12	8	11	0	5	1	0
Washrack	25	9	1	7	2	4	1	0
Drainage Ditch	22	6	5	5	2	4	0	3
Small Arms Range	22	2	0	2	0	0	0	0
Incinerator	19	1	0	0	0	0	0	1
Contaminated Soil Piles	17	5	3	3	2	2	1	0
Mixed Waste Area	16	7	4	4	5	3	0	0
Pistol Range	14	4	0	4	0	0	0	0
Chemical Disposal	11	0	0	0	0	0	0	0
Pesticide Shop	10	3	1	2	1	2	0	0
Industrial Discharge	8	4	3	4	1	2	0	0
Surface Runoff	5	2	0	1	1	1	0	0
Leach Field	4	1	0	1	1	0	0	0
Plating Shop	4	1	1	1	1	1	0	0
Sewage Effluent Settling Pond	3	0	0	0	0	0	0	0
Dip Tank	2	1	0	0	1	0	0	0
Optical Shop	1	0	0	0	0	0	0	0
Other	78	8	2	4	2	3	0	4
Total	9,331	3,212	2,093	2,224	1,392	1,322	712	264

Notes:
[a] Number of sites needing remediation; data were available for 3,212 of the sites needing remediation.
- POL = Petroleum, oil, lubricant
- The total count for a site type may exceed the number of sites with data for the site type, because a site may have more than one contaminant group.

Source: DOD, Office of the Deputy Under Secretary of Defense (Environmental Security), Restoration Management Information System, November 1995. Data as of September 1994.

Exhibit C-7: Frequency of Contaminant Subgroup by Matrix
Percent of Sites with Data

Contaminant	Groundwater	Soil	Surface Water	Sediment
Metals	58.86	60.77	75.69	80.42
Halogenated VOCs	56.55	22.80	8.87	5.29
Nonhalogenated VOCs	44.06	28.22	20.39	8.99
Toxic Elements	19.39	34.54	23.82	30.16
Nonhalogenated SVOCs	24.67	26.47	25.77	22.22
BTEX	19.30	16.03	5.06	2.65
PAHs	5.98	15.99	3.92	15.34
Pesticides/Herbicides	5.41	15.42	7.34	16.93
Explosives/Propellants	7.34	7.10	8.97	1.59
Halogenated SVOCs	6.68	4.65	1.96	2.65
Other	7.42	2.65	5.71	3.70
PCBs	1.48	7.10	1.47	6.88
Inorganic Cyanides	3.19	3.10	2.94	1.06
Solvents	1.05	0.12	0.00	0.00
Radioactive Metals	0.13	0.57	0.00	0.00
Dioxins/Furans	0.09	0.08	0.16	0.00
Organic Corrosives	0.09	0.20	0.00	0.00
Inorganic Corrosives	0.04	0.00	0.00	0.00
Organic Cyanides	0.00	0.04	0.00	0.00

Notes:
- VOC = Volatile organic compound; SVOC = Semivolatile organic compound; BTEX = Benzene, toluene, ethylbenzene, xylene; PAH = Polynuclear Aromatic Hydrocarbons; PCB = Polychlorinated biphenyls.
- Data were available for 3,212 sites.

Source: DOD, Office of the Deputy Under Secretary of Defense (Environmental Security) Restoration Management Information System (RMIS), November 1995. Data as of September 1994.